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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,329	05/02/2005	Martin P McCormick	1290US2	5368

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EXAMINER	
BAYOU, AMENE SETEGNE	
ART UNIT	PAPER NUMBER
3746	

NOTIFICATION DATE	DELIVERY MODE
12/30/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/533,329	MCCORMICK ET AL.	
	Examiner	Art Unit	
	AMENE S. BAYOU	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 September 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 2* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 2* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05/02/05* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C 103(a) as being unpatentable over Senf (4789100) in view of Cline et al (6161723).

3. In re claim 1, Senf discloses a multiple fluid pumping system including:

- A proportioner in figure 4,for dispensing plural component materials (18,20), proportioner comprising: A variable speed electric motor (70) having a shaft and first and second ends ; shaft extending from each ends (as clearly shown in figure 4 the motor and gear box system constitute a variable speed system and two shafts extend in both direction leading to pumps 54 and 64) ;a first reciprocating pump (54) attached to first motor end , pump (54) being connected to a source of a first material (18) and having an output (60) which has a first pressure; a second reciprocating pump (64) attached to second motor end , pump (64) being connected to a source of a second material (20) and having an output (66) which has a second pressure, pumps (54,64) simultaneously pumping materials to an applicator (50) without passing through another pump ,first and second pumps (54,64) being the only pumps between material sources (18,20) and outputs (60,66), a user-selectable pressure

set point (column 4,lines 36-41). Senf however fails to disclose the following limitation which is taught by Cline et al:

- A controller (14) with provision for a user-selectable (using item 20) pressure set point (column 17,lines 30-34), controller (14) continually comparing first and second pressures and regulating the higher of pressures to set point (step 514 of figure 28) ,in figures 1, 28 and column 17,lines 31-33.

4. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the proportional mixing means of Senf by including a controller with user selectable pressure set point as taught by Chine et al in order to allow precise and automated pump pressure control.

5. In re claim 2, Senf in view of Cline et al disclose the claimed invention:

Hayes discloses:

- A proportioner in figure 4,for dispensing plural component materials (18,20), proportioner comprising: A variable speed electric motor (70) having a shaft and first and second ends ; shaft extending from each ends (as clearly shown in figure 4 the motor and gear box system constitute a variable speed system and two shafts extend in both direction leading to pumps 54 and 64) ;a first reciprocating pump (54) attached to first motor end , pump (54) being connected to a source of a first material (18) and having an output (60) which has a first positive pressure; a second reciprocating pump (64) attached to second motor end , pump

(64) being connected to a source of a second material (20) and having an output (66) which has a second positive pressure, pumps (54,64) simultaneously pumping materials to an applicator (50) without passing through another pump ,first and second pumps (54,64) being the only pumps between material sources (18,20) and outputs (60,66), a user-selectable pressure set point (column 4,lines 36-41).

Cline et al disclose:

- Pumps (34,36) simultaneously pumping materials to an applicator (53) without passing through another pump ,in figure 1 ,a controller (14) with provision for a user-selectable (using item 20) pressure set point (column 17,lines 30-34), controller (14) continually comparing first and second pressures and providing an alarm in the event one of pressures falls to a predetermined percentage of set point, in figures 1, 28 and column 17,lines 31-33 and column 18 lines 5-7.

Alternate Claim Rejections - 35 USC § 103

6. Claims 1 and 2 are rejected under 35 U.S.C 103(a) as being unpatentable over Hayes (4547128) in view of Flemming et al (4878601) further in view of Cline et al.

7. In re claim 1, Hayes discloses a proportional mixing means including:

- A proportioner (11) in figure 1,for dispensing plural component materials, proportioner (11) comprising: A variable speed electric motor (41) having a shaft (43 and 45) and first and second ends ; shaft (43 and 45)extending from each of ends ;a first pump (21) attached to first motor

end (using shaft 43), pump being connected to a source of a first material (13) and having an output (39) which has a first pressure; a second pump (23) attached to second motor end (using shaft 45) , pump being connected to a source of a second material (15) and having an output (49) which has a second pressure, first and second pumps (21 and 23) being the only pumps between material sources and outputs. But Hayes fails to disclose the following limitation which is taught by Flemming et al:

- Reciprocating piston pump (90), in figure 5. Hayes in view of Flemming et al,however fails to disclose the following limitation which is taught by Cline et al:
- Pumps (34,36) simultaneously pumping materials to an applicator (53) without passing through another pump ,in figure 1 ,a controller (14) with provision for a user-selectable (using item 20) pressure set point (column 17,lines 30-34), controller (14) continually comparing first and second pressures and regulating the higher of pressures to set point (step 514 of figure 28) ,in figures 1, 28 and column 17,lines 31-33.

8. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the proportional mixing means of Hayes by selecting a reciprocating pump as taught by Flemming et al for low cost operation (by the design choice of piston pump) .And It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the modified proportional mixing means of Hayes and Flemming et al by pumping materials simultaneously as taught by Cline et al in

order to efficiently control the fluid mixing operation and increase the efficiency (because of reduced pumping time).Also using a controller and user selectable pressure set point as taught by Chine et al will allow precise pump pressure control.

9. In re claim 2, Hayes in view of Flemming et al further in view of Cline et al discloses the claimed invention:

Hayes discloses:

- A proportioner (11) in figure 1,for dispensing plural component materials, proportioner (11) comprising: A variable speed electric motor (41) having a shaft (43 and 45) and first and second ends ; shaft (43 and 45)extending from each of ends ;a first pump (21) attached to first motor end (using shaft 43), pump being connected to a source of a first material (13) and having an output (39) which has a first positive pressure; a second pump (23) attached to second motor end (using shaft 45) , pump being connected to a source of a second material (15) and having an output (49) which has a second positive pressure.

Flemming et al disclose:

- Reciprocating piston pump (90), in figure 5.

Chine et al disclose:

- Pumps (34,36) simultaneously pumping materials to an applicator (53) without passing through another pump ,in figure 1 ,a controller (14) with provision for a user-selectable (using item 20) pressure set point (column 17,lines 30-34), controller (14) continually comparing first and second

pressures and providing an alarm in the event one of pressures falls to a predetermined percentage of set point, in figures 1, 28 and column 17,lines 31-33 and column 18 lines 5-7.

Response to Arguments

10. Applicant's arguments with respect to claims 1 and 2 have been considered but are not persuasive.

11. In re claim 1 applicant argues that the device of Senf does not disclose reciprocating piston pumps but rather discloses gear pumps and Chine does not show a system which monitors the higher of two pressures. Regarding the alternate rejection applicant argues that Hayes disclosed materials are not considered plural component materials as one skilled in the art would normally understands because they are defined as materials having two or more components that chemically react with one another and thus dilution is not considered as a chemical reaction. Applicant further argued that in Hayes there is more than one pump between the concentrate and the work station. In regards to Flemming applicant argues that the reference teaches alternate dispensing of various colored material and since it involves a metered dispensing using a stepper motor there is no pressure control nor any need for such.Exminer respectfully disagrees.

Senf discloses two equal displacement pumps (54 and 64) driven by gear mechanism, (column 3,lines 38-52;column 11,lines 23-29).The background of the invention further discuses use of positive displacement pumps having a fixed volume ratio with an adjustable length actuating arm used to vary the ratio of

stroke length (column 1,lines 33-36).Senf only includes the modification of using gear mechanism to drive the displacement pumps in order to ensure correct aliquot proportioning is achieved and that the desired chemical reaction is achieved (see column 3,line 43-49).As known in the art displacement pump is a general category that comprises reciprocating (such as piston or diaphragm) or rotary pumps (such as gear pumps).Thus since Senf state that the pumps are displacement pumps it could mean either gear or reciprocating pump. Cline also teaches a system which monitors the higher of two pressures. **Cline in Column 17, lines 15-37 clearly teach that 'the pressure from one or both of the transducers 58 and 60 is compared with a preselected high set point when the pumps are dispensing".**

Examiner couldn't find any support to applicant's assertion that Hayes disclosed materials are not considered plural component materials as one skilled in the art would normally understands because they are defined as materials having two or more components that chemically react with one another and thus dilution is not considered as a chemical reaction. Applicant's claim only recite that there are plural component material without stating that they are intended to undergo chemical reaction. Nevertheless even considering applicant's definition it is clear that the liquid concentrate and the pressurized liquid diluent can be considered as two chemicals reacting together during mixing since from multiple list of liquids there will be two liquids that can react chemically. Applicant's argument that in Hayes there is more than one pump between the concentrate and the work station is invalid because examiner does not use the teaching of Hayes for such

claim limitation (i.e. first and second pumps 21 and 23 being the only pumps between material sources and outputs is taught by the primary reference Hayes. In the same manner applicant's argument that Flemming teaches alternate dispensing of various colored material and since it involves a metered dispensing using a stepper motor there is no pressure control nor any need for such is also incorrect since examiner uses Flemming for the disclosure of reciprocating pumps and nothing more.

Conclusion

12. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amene S. Bayou whose telephone number

is 571-270-3214. The examiner can normally be reached on Monday-Thursday, 9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art Unit 3746